

IFEAT

# SOCIO-ECONOMIC REPORT ON OREGANO FROM TÜRKİYE

BY KAZIM GUREL<sup>1</sup>, UFAK BEGİSİ<sup>2</sup>  
AND HUGO BOVILL<sup>3</sup>

<sup>1</sup> President and CEO of Kutas Group

<sup>2</sup> General Manager, Kutas Group

<sup>3</sup> Ajowan Consulting

## INTRODUCTION

Oregano is an endemic plant growing throughout the Mediterranean. The genus *Origanum* (tribe Mentheae, Labiatae family) is characterised by a large morphological and chemical diversity. The major essential oil constituents are carvacrol and/or thymol, accompanied by p-cymene and g-terpinene.

Oregano is a perennial and only comes to full yield during the second year of growth and can continue to provide a good harvest with decent yields for five to six years. It is a plant that must be propagated, and seedlings

are planted in fields at altitudes of between 300 – 1,600 metres in the early spring, reaching harvest maturity by July. The plant is resistant to both high and low temperatures and in some years it can be covered with snow in wintertime.

## USES

Oregano has been used by many ancient civilisations for centuries for both culinary and medicinal purposes. It has become a very popular herb from a combination of its introduction to the non-Italian/Mediterranean population during the Second World War with American soldiers visiting the continent, along with immigration to the Americas and northern countries in Europe. The advent of the pizza and Italian-type sauces globally and a considerable increase in tourism within Europe were strong influences. Now a

staple of many cuisines for the western palate, it is a feature of kitchens both domestic and industrial the world over.

## PRODUCTION

The considerable increase in demand and the increasing price of labour has led to the cultivation of the product migrating from Italy and Greece to Türkiye where currently over 85% of the world's oregano is cultivated and processed. Today oregano is almost entirely harvested in and around the mountains of Denizli in Türkiye, and in Albania and Greece, where it is mainly cultivated and mechanically harvested. Wild harvesting is very rare.

An estimated area of 85,000 hectares is grown in the Denizli area, mostly on smallholder farms which are owned and managed by smallholder families. After the de-monopolisation



KUTAS FACILITIES





PLANTING



WEEDING



OREGANO FIELD



HARVESTING



TRANSPORTING



PROCESSING



DISTILLATION UNITS



DISTILLATION UNITS



LABORATORY FACILITIES

of the Turkish tobacco industry in the early 2000s, oregano as a crop was introduced to the Denizli area. Due to the farmers' experience with tobacco, which has similar field preparation characteristics, it was a relatively easy substitution.

Crop sizes of the dried herb have grown from an initial start of 3,000 tonnes to over 23,000 tonnes in 2022. It is estimated that there are 8,000 farmers of oregano in the Denizli region and with the support functions of labour, transport, and others, this crop affects the lives of around 50,000+ individuals in Türkiye alone.

As previously stated, the oregano crop has been increasing and has been a successful and profitable product for the Denizli farmer base until now. After a generation of Turkish commercial large-scale cultivation, a new second generation is entering the business with consolidation of some fields as some farmers and investors are purchasing neighbouring farms along with investments in new plant and equipment, thereby ensuring the future of the crop. The devastating 2023 Turkish earthquake took place some 1,000 kilometres away from the oregano growing area and has had no direct impact on production levels.

## RESIDUES AND ADULTERATION

In recent years, the introduction of strict legislation on the use of pesticides has caused considerable challenges to growers, but these have been mostly overcome by judicious field officers and the use of traditional organic farming methods.

What started as a way to reduce the levels of radiation in oregano herb after the Chernobyl nuclear incident in 1986 has become a very profitable tool to increase the profits of unscrupulous traders and buyers both in Türkiye and around the world.

This is by no means just a local issue; rather buyers from the EU and USA have even provided formulas to their suppliers giving their preferred adulterants and percentages.

Sumac leaves were first used during the Chernobyl era, this then evolved to cistus. When it was found that these additions reduced the volatile oil content of the resulting blend, myrtle leaves were added. Myrtle has a volatile oil that when distilled along with the oregano oil leads to an increased oil content, but only further analysis will reveal that it is not oregano oil. The oil reveals that the herb is not 100% oregano.

In the last few years all pretence at masking has been dropped and olive leaves are now the prevalent source of adulteration.

## OREGANO ESSENTIAL OIL

Essential oils have been produced for many years in Türkiye using small-scale artisanal production methods with a range of wild grown items such as oregano, sage, and other herbs, and the rose oil industry has been well established for decades. The

distillation of medicinal plants was in the past an off-season activity of the rose oil distillers.

With the growth of large-scale oregano cultivation in Türkiye in the last 25 years, oregano oil production has also increased dramatically to many tens of tonnes and new companies, who were experienced in the medicinal plant distillation, were established.

Distillation is carried out using mostly Turkish designed and constructed plant.

Traditional major markets for oregano oil were aromatherapy, and the food supplement and feed industry, due to its anti-microbial and antioxidant properties. Animal feed applications were mainly for poultry and livestock for many years with appreciable increases in animal welfare and yields. Much research has been conducted on the usage in such fields and with concerns over antibiotic usage this is very valuable. It has been shown that when oregano oil is used in combination with antibiotics, they have an antagonistic effect leaving both ineffective.

The advent and growth of the USA aromatherapy trade has encouraged new producers to enter the market. Much of this oil has been exported to Eastern Europe for re-export.

Oil adulterated with synthetic carvacrol has been common in the market outside Türkiye, Albania, and Greece but with some recent re-evaluated simple testing methods this should become less prevalent.

Oregano oil is produced not only in Türkiye but also throughout Eastern Europe, Greece, Albania, France, USA (captive), Kenya, and Morocco.

In Mexico 3,000 - 4,000 tonnes of wild *Lippia graveolens* (so-called Mexican oregano) herb is harvested and dried, 40% of the production is shipped to Türkiye. No oil is commercially produced, but theoretically the Mexican oil would be rich in thymol.

The map below shows the location of the mountains where oregano is grown and its relationship to the rose growing areas of Isparta and Antalya

The areas in red show the earthquake area. Adana is 1,000km from İzmir.





## SUMMARY

- Oregano (*Origanum* tribe Mentheae, Labiatae family) is a perennial plant growing throughout the Mediterranean usually at altitudes of 300 – 1,600 metres. The major essential oil constituents are carvacrol and/or thymol, along with p-cymene and g-terpinene.
- Used for centuries for culinary and medicinal purposes, demand has grown quickly in recent decades. It is now used worldwide as a staple of Mediterranean cuisines, particularly in pizzas, alongside increased demand from the aromatherapy and animal feed sectors.

- Türkiye dominates production and processing accounting for some 85% of global output. Production is centred on smallholder farms around the Denizli mountains, with approximately 85,000 hectares under cultivation. Production of the dried herb in 2022 was 23,000 tonnes. Wild harvesting is now very rare with mechanical harvesting dominating.
- Oregano was substituted for tobacco growing in the early 2000s and some 8,000 smallholder farmers in the Denizli region are growing oregano, which provides incomes for 50,000+ individuals in Türkiye alone. Continued investment and consolidation is

taking place to ensure the sector's future.

- Other producing areas include Albania and Greece. In addition, Mexico produces 3,000 - 4,000 tonnes of dried herb from wild *Lippia graveolens* (so-called Mexican oregano) with 40% shipped to Türkiye. No oil is commercially produced, but theoretically the Mexican oil would be rich in thymol.
- Over the past 25 years there has been a sizable expansion in Turkish oregano oil production using mainly local equipment. Also, the oil is produced throughout Eastern Europe, Greece, Albania, France, USA, Kenya, and Morocco.

